

FUROBENZOPYRAN DERIVATIVE AND HERBICIDE CONTAINING THE DERIVATIVE AS ACTIVE COMPONENT

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Abstract

PURPOSE: To obtain a new compound exhibiting excellent herbicidal action, extremely safe to useful crops such as paddy rice plant, soybean and cotton and useful as a herbicide for paddy rice, plowed field and non-plowed field.

CONSTITUTION: This furobenzopyran derivative is a compound of formula I [R1 is a lower alkyl ; R2 is a lower alkyl, a lower alkoxy, a halogen or a halogen-substituted lower alkyl; R3 is a lower alkyl, a lower alkoxy, a halogen, phenoxy, etc.; R4 is H or a lower alkyl; R5 is cyano, nitro, phenyl or S(C)qR6 (R6 is a lower alkyl, etc.; (q) is 0-2); (m) is 0-4; (n) is 0-2; (p) is 1-3; etc.], e.g. (2R,3S,3aS,9bR)-2-ethyl-6-methoxymethyl-3-(2-methylbenzyloxy)-3,3a,5,9b-tetrahydro-2H-furo[3,2-C] [2]benzopyran. The compound of formula I can be produced by the intramolecular cyclization reaction of a tetrahydrofuran derivative of formula II. The herbicide is effective for the control of weeds such as barnyard grass, large crab-grass, green foxtail, white-bird's-eye and green amaranth.